

Project Baseline Summary Report

Data Source: **EM CDB**

Operations/Field Office: **Oakland**

Site Summary Level: **Lawrence Berkeley National Laboratory**

Project **OK-004 / LBNL Hazardous Waste Handling Facility Closure (Environmental Restoration)**

Report Number: **GEN-01b**

Print Date: **3/9/2000**

HQ ID: **0261**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

Purpose of Project: A new Hazardous Waste Handling Facility (HWHF) is being constructed at LBNL. The closure of the existing HWHF at LBNL (which consists of storage and treatment units) is required by the RCRA Part B Permit issued by the State of California, Department of Toxic Substance Control (DTSC). Closure of the HWHF will be done on a unit by unit basis in accordance with the Part B Permit Closure Plan (Section IX of the Part B Permit Application) and in accordance with DOE Order 5400.5 (radiological areas). The existing HWHF is managed by EM-30 and construction of the new HWHF is their responsibility. After the new facility is constructed and operational, EM-30 will vacate the existing HWHF and turn responsibility over to EM-40 for clean closure.

Definition of Scope: The existing HWHF includes Buildings 75,75A, and 69, the Coporation Yard and the Building 77 coolant evaporator. The closure of the existing HWHF at LBNL will be done on a unit by unit basis in accordance with Part B Permit. There are seventeen storage units consisting of nine hazardous waste storage units (HWSUs), seven mixed waste storage units (MWSUs), and one hazardous waste storage and treatment unit (HWS&TU). There are three treatment units. Two are mixed waste treatment units (MWTU) and one is a hazardous waste treatment unit (HWTU). In addition, there are two radiological areas (room 127 and the 75A compactor). To obtain clean closure, the following activities will be performed. A HWHF Closure work plan addendum will be developed. Contaminated areas will be characterized, decontaminated, and verified clean. A geotechnical investigation will be done to verify that there is no contamination of soil. No soil cleanup is anticipated. A closure report will be prepared at completion of decontamination activities. Clean closure will eliminate the need for long term monitoring.

Technical Approach: The approach to obtain clean closure of the existing HWHF is as follows:

- Characterize the units by taking pre-decontamination swipe samples and analyzing them for contamination.
- Decontaminate the physical structures of each of the units making up the HWHF by hand cleaning, steam cleaning, or hydroblasting with an appropriate cleaning agent or dismantling and removing these structures and resulting rinsates to an off site permitted treatment or disposal facility.
- Verify the effectiveness of decontamination by taking wipe samples of surfaces and analyze for parameters indicative of the historical contaminants.
- Repeat structure decontamination as necessary until no contamination remains at concentrations above health based levels.
- Dismantle contaminated structures and manage as hazardous waste or mixed waste by transporting to an off site TSD facility whenever decontamination is not feasible.
- Analyze collected rinsate from decontamination to ascertain appropriate disposition of the solution.
- Ensure compliance with Land Disposal Restrictions whenever applicable for each waste stream.
- Drill boreholes and sample soil to verify that no soil contamination exists.

Project Status in FY 2006:

Closure of the existing HWHF was completed in FY1998. Because this is to be a clean closure, no ongoing maintenance or monitoring will be required, so all scope activities are completed by FY1998.

Post-2006 Project Scope:

Dataset Name: **FY 1999 Planning Data**

Date of Dataset: **9/20/1999**

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Project Description Narratives

This project is completed in FY 1998 so no scope activities exist past FY2006.

Project End State

Closure of the existing HWHF at LBNL by EM-40 was contingent on EM-30 constructing a new HWHF at LBNL and transferring operations. No other EM-40 projects are required to close the HWHF. The end state is clean closure of the HWHF facilities and associated areas. After closure the facilities will be used by ongoing LBNL operations.

Cost Baseline Comments:

The LBNL cost estimate is based upon detailed bottoms-up type activity based cost estimates. The following additional items form the basis of the cost Baseline:

- 1) Escalation rates were applied and based on DOE approved rates from EM.
- 2) Contingency has been included at approximately 20% for the HWHF closure.
- 3) The cost estimates for the HWHF closure tasks were based on the scope of work documented in the current approved work plan.
- 4) The HWHF closure estimate does not include any soil remediation as none is expected.

Safety & Health Hazards:

Closure of the HWHF will be done on a unit (storage) by unit basis in accordance with the Part B permit closure plan and DOE Order 5400.5. There are seventeen storage units consisting of units for hazardous waste and mixed waste. These units will be clean closed. Normal occupational safety hazards related to building decontamination will be encountered. The hazardous and radioactive materials presently contained in the HWHF are known to cause cancer and/or genetic effects. If left unaddressed, a potential exists for release of contaminants to the environment in concentrations exceeding published acceptable limits. A potential would then exist for exposure of site personnel above published limits, such as those found in the Occupational Safety and Health Administrations Permissible Exposure Limits. Furthermore, it is assumed that the uncontrolled release of contaminants into the environment would result in the contamination of surface waters, creeks and stormdrains leaving the site, thus providing off-site pathways and thereby jeopardizing public health and safety. Under this scenario, the potential for localized, long-term environmental contamination exists which could go unmitigated. In this case, LBNL would also be in noncompliance with its RCRA Part B Permit. Closure activities will be conducted in a manner to minimize any threat to human health or the environment.

Safety & Health Work Performance:

Work will be completed in accordance with activities described in work authorization packages. A site specific H&S plan has been prepared describing hazards and mitigation techniques that will be utilized to enhance worker safety. All project staff will receive proper H&S training. Meetings are held to address H&S issues and/or concerns to eliminate/minimize H&S incidents. Sufficient resources will be allocated to ensure that all activities are conducted in a safe manner.

PBS Comments:

The EM-30 program will accomplish the construction, permitting and occupation of a new HWHF and will vacate the existing HWHF. The restoration program's ability to commence RCRA clean closure activities on schedule is dependent upon the facility being vacated as planned.

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Project Description Narratives

If the activities supported by this project are not carried out, LBNL will violate its RCRA Part B Permit and will be subject to fines under RCRA.

It is expected closure of the HWHF will generate debris, PPE, and decon. liquid that is either hazardous waste or mixed waste. The hazardous and mixed waste from the HWHF closure will be disposed of offsite at commercial treatment, storage, and disposal facilities.

Baseline Validation Narrative:

In April 1996, DOE Oakland performed a cost validation on the HWHF project at LBNL. In performing this validation DOE/OAK prepared a detailed bottoms-up type estimate based on the scope of work identified by LBNL. DOE/OAK used this independent estimate to compare with the estimate prepared by LBNL for the HWHF. A report was prepared that discussed the major differences point by point and meetings were held with the site to reconcile the cost differences. The review team based their cost estimates on costs developed from similar type projects at other government sites and private industry.

General PBS Information

Project Validated? Yes **Date Validated:** 4/4/1996

Has Headquarters reviewed and approved project? No

Date Project was Added: 12/1/1997

Baseline Submission Date: 7/13/1999

FEDPLAN Project? Yes

Drivers:	CERCLA	RCRA	DNFSB	AEA	UMTRCA	State	DOE Orders	Other
	N	Y	N	N	N	Y	Y	Y

Project Identification Information

DOE Project Manager: Hemant Patel

DOE Project Manager Phone Number: 510-637-1568

DOE Project Manager Fax Number: 510-637-2031

DOE Project Manager e-mail address: hemant.patel@oak.doe.gov

Is this a High Visibility Project (Y/N):

Planning Section

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Date of Dataset: **9/20/1999**

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Report Number: GEN-01b

Operations/Field Office: Oakland

Print Date: 3/9/2000

Site Summary Level: Lawrence Berkeley National Laboratory

HQ ID: 0261

Project OK-004 / LBNL Hazardous Waste Handling Facility Closure (Environmental Restoration)

Baseline Costs (in thousands of dollars)

	1997-2006 Total	2007-2070 Total	1997-2070 Total	1997	Actual 1997	1998	Actual 1998	1999	2000	2001	2002	2003	2004	2005	2006	
PBS Baseline (current year dollars)	631	0	631	200	117	431	463		0	0	0	0	0	0	0	
PBS Baseline (constant 1999 dollars)	631	0	631	200	117	431	463		0	0	0	0	0	0	0	
PBS EM Baseline (current year dollars)	631	0	631	200	117	431	463		0	0	0	0	0	0	0	
PBS EM Baseline (constant 1999 dollars)	631	0	631	200	117	431	463		0	0	0	0	0	0	0	
	2007	2008	2009	2010	2011- 2015	2016- 2020	2021- 2025	2026- 2030	2031- 2035	2036- 2040	2041- 2045	2046- 2050	2051- 2055	2056- 2060	2061- 2065	2066- 2070
PBS Baseline (current year dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Baseline Escalation Rates

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
0.00%	0.00%		2.70%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%

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2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%

Project Reconciliation

Project Completion Date Changes:

Previously Projected End Date of Project: 9/30/1998

Current Projected End Date of Project: 3/1/1998

Explanation of Project Completion Date Difference (if applicable):

Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):	1,136	Actual 1997 Cost:	117	Actual 1998 Cost:	463
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	556	Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):			15
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	571				

Project Cost Changes

	Cost Adjustments	Reconciliation Narratives
Cost Change Due to Scope Deletions (-):	200	Negotiated reduced characterization sampling by approximately 1/3 over original closure plan.
Cost Reductions Due to Efficiencies (-):	308	Used wipe cleaning versus pressure washing reduced waste generated.
Cost Associated with New Scope (+):		
Cost Growth Associated with Scope Previously Reported (+):		
Cost Reductions Due to Science & Technology Efficiencies (-):		
Subtotal:	63	
Additional Amount to Reconcile (+):	-63	
Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	0	

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Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Project Start	OK-004-01		7/1/1997								
Complete Work Plan	OK-004-02		4/17/1997								
Complete Characterization	OK-004-03		3/1/1998								
Start Closure	OK-004-04		1/15/1998								
Complete Closure	OK-004-05		3/1/1998	3/1/1998			Y				
Complete Closure Report	OK-004-06		3/1/1998								
Mission Complete	OK-004-07		3/1/1998	3/1/1998			Y				

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critical Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Project Start	OK-004-01		Y	Y			1	1	1		Initiate closure of the existing HWHF.
Complete Work Plan	OK-004-02										Complete HWHF Work Plan Addendum.
Complete Characterization	OK-004-03										Complete HWHF Characterization.
Start Closure	OK-004-04										Start HWHF Closure.
Complete Closure	OK-004-05		Y				1	1	1		Complete HWHF Cleanup.
Complete Closure Report	OK-004-06						1	1	1	Y	Complete HWHF Closure Report.
Mission Complete	OK-004-07		Y		Y	Y	1	1	1		Closure Report approved by Regulators. Project Mission Complete.

Performance Measure Metrics

Category/Subcategory	Units	1997-2006 Total	2007-2070 Total	1997-2070 Total	Actual Pre-1997	Planned 1997	Actual 1997	Planned 1998	Planned 1999	Planned 2000	Planned 2001	Planned 2002	Planned 2003	Planned 2004
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Performance Measure Metrics

Category/Subcategory	Units	1997-2006 Total	2007-2070 Total	1997-2070 Total	Actual Pre-1997	Planned 1997	Actual 1997	Planned 1998	Planned 1999	Planned 2000	Planned 2001	Planned 2002	Planned 2003	Planned 2004
Fac.														
Decom.- Assess.	NF	1.00	0.00	1.00				1.00						
Fac.														
Decom- Cleanup	NF	1.00	0.00	1.00				1.00						
Category/Subcategory	Units	Planned 2004	Planned 2005	Planned 2006	Planned 2007	Planned 2008	Planned 2009	Planned 2010	Planned 2011 - 2015	Planned 2016 - 2020	Planned 2021 - 2025	Planned 2026 - 2030	Planned 2031 - 2035	
Fac.														
Decom.- Assess.	NF													
Fac.														
Decom- Cleanup	NF													
Category/Subcategory	Units	Planned 2036 - 2040	Planned 2041 - 2045	Planned 2046 - 2050	Planned 2051 - 2055	Planned 2056 - 2060	Planned 2061 - 2035	Planned 2066 - 2070	Exceptions	Lifecycle Total				
Fac.														
Decom.- Assess.	NF									1.00				
Fac.														
Decom- Cleanup	NF									1.00				

Facility Decommissioning

Site Code	RSF ID	Change Flag	Description	Class/Subclass	Hazard	Plan. Assess. Year	Fore. Assess. Year	Actual Assess. Date	Plan. Deac. Year	Fore. Deac. Year	Actual Deac. Date	Plan. Comp. Year	Fore. Comp. Year	Actual Comp. Date	Acc. Year	No Action	Comp. Status	RAD
LABL	0165		SWMU 3-6 HAZARDOUS WASTE HANDLING FACILITY (STRUCTURES)	Buildings & Equipment/Other Buildings		1998	1998	3/1/1998				1998	1998	3/1/1998		N		U

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